

is good. In 40,159 acres of reserved forests beat guards with their own hands prepared and placed seeds in 120,677 small pits and also in 1,016,876 holes, each just large enough to bury a seed, and in addition to this 15,000 acres were broad-casted by them: 255 khandis of seeds were collected by forest guards within their beats, free of all cost.

The plantations at Dongargan and Hanumantgaon are maintained, and are making good progress; 2 mális on Rs. 6 each are employed to look after them.

102. In the Poona Division reboisement operations by means of dibbling, furrow-ploughing, &c., were undertaken with great vigour, paid labour costing Rs. 3,121 being employed. 135,480 pits were thus dug for the reception of seeds; 864½ acres of lands on the flat were ploughed and sown; and 400 acres were sown broadcast. In addition thereto, 133,950 pits covering an area of about 403 acres were made and sown by forest guards, free of cost, with mixed seeds, and 1,617 acres of land containing bushes were broad-casted in places, and seeds of nimb, mango (*Mangifera indica*), jambhul (*Eugenia jambolana*) and of other trees of the arid region, were dibbled into the ground. In every range of the Poona Division, seeds were collected by forest guards free of cost, and the quantities of seeds thus collected are returned at 152 khandis, 15 maunds and 27 pounds.

103. In the Sátára Collectorate operations are confined to,—

1. Nursery and plantation proper.
2. Dibbling, &c., of seed.
3. Broad-casting.

A larger amount has been expended than in the previous year, the chief reason for this being the sowing up of all the exploited coupes of the season, so that these compartments may become hereafter fully stocked with a large proportion of seedling trees. In all the ranges, plantation works were undertaken at the cost of the forest budget, which amounted to Rs. 1,941, and on the whole the year was a favourable one for the growth of vegetation, and it was pleasing to observe a marked improvement in many of the plantations.

104. In the Sholápur Division the measures taken in the matter of re-forestation, by paid labour, have been that the smaller kinds of seeds have been broad-casted; and the larger kinds, such as ain (*Terminalia tomentosa*), teak, mango, &c., have been dibbled into the soil over a surface of about 4,500 acres. Beat guards, each of them without any extraneous assistance, have prepared 100 pits for mangoes 2' x 2' x 2', and 2,000 pits 1' diameter and 1' deep for other seeds, within the forests in their beats; and the total extent of their cultural works has spread over 165 acres 38 gunthas sown by pitting, 61½ acres sown by dibbling, and nearly 14,857 acres sown broadcast. Each guard is required to gather and bring in 784 lbs. of mixed seeds during the season; 112 khandis, 26 maunds and 10 seers of seeds were thus collected by forest guards; while 80 khandis, 5 maunds and 11 seers were purchased locally, and 5 khandis, 25 maunds and 5 seers were imported into the division. The Divisional Forest Officer reports the forest guards' cultural work to be promising.

105. The cultural operations undertaken by forest guards, as a part of their ordinary duties, cannot but have a marked effect upon the rewooding of the country within the Central Circle. Each forest beat, and all the forest areas in every division are divided into beats, so that not an acre in charge of the Forest Department is left outside a beat, is an unit of plantations; so that reboisement is pushed yearly in as many different localities spread over the face of the country, as there are forest guards in charge of forest-beats.

(3). *Early Thinnings.*

106. No such operation has been attempted in any division of the Circle.

(4) *Other Operations for the Improvement of the Growing Stock.*

107. All the forest guards cut creepers within the forests of their beats, and they are required to eradicate all prickly-pear which may freshly appear in their forests.

108. In the East Khándesh Division prickly-pear (*Opuntia dillenii*) was taken out of forests in the Bhusával and Jalgaon ranges at an expenditure of Rs. 8.

109. In the Násik Division Rs. 57-4-6 was paid for the cutting of creepers in the heavy forests of the Peint Range, about 7,268 acres having been worked over. And the eradication of prickly-pear (*Opuntia dillenii*) was undertaken in forests of the Kalvan and Niphád ranges, wherein 860 acres were freed of this nuisance, making room for a better growth of timber, at a cost of Rs. 791-10-6.

110. In the Poona Division gangs of 6 or 8 men were working at prickly-pear eradication, each gang under a forest guard; and about 83 acres and 25 gunthas of forest lands, densely covered and shut up by it, were cleared in the Junnar, Indápur, Haveli, Dhond, Purandhar, Sirúr and Bhimthadi ranges. The prickly-pear, after being cut up and rooted out, was buried in natural rifts in the ground, and where these did not occur it was stacked in large heaps 10' x 10' x 8' to decompose, when it was burnt.

111. In the Sátára Division an expenditure of Rs. 132-15-0 was incurred in cutting down and uprooting prickly-pear (*Opuntia dillenii*) in the Tásgaon Range: but each forest guard with his koita or bill-hook severed creepers, and dug up young prickly-pear in the forest of his beat.

112. In the Sholápur Division, where the prickly-pear (*Opuntia dillenii*) was too heavy for the forest guards to cope with unaided, hired labour had to be employed in its destruction, and about 480,585 square feet were cut out at a cost of Rs. 784.

113. The account of prickly-pear removal may possibly not come properly under the designation "Other operations for the improvement of the growing stock," and it might seemingly more appropriately be termed an operation to make room for growing stock, but it has been entered here, as no other sub-heading has been provided for it.

114. No girdling-operations have been undertaken in any division of the Circle, either for the improvement of the forests, or to facilitate the removal of timber, or to season it on foot at the risk of heart shakes.

(5). *Experiments.*

115. Seeds of *Terminalia chebula*, hirda, the valuable myrobalan of commerce, obtained from the Southern Marátha Country, were sown in the Sátápuda hill forests of Khándesh, where the tree is at present unknown, but there has not been sufficient time for germination, as the seed often remains underground for over twelve months before the young seedlings appear. The tree is common in Central India on the high lands of the Sátápudas, and it ought to do well in the Sátápudas of Khándesh.

116. Seeds of Sind bábul were obtained from the Conservator of Forests, Sind, and were sown in the river-side bábul forests in several divisions of the Deccan; no less than twenty bags were thus sown in the Trans-Purna and other forests in East Khándesh; the tree does remarkably well in the Presidency proper.

117. Seeds of sal, *Shorea robusta*, which the Conservator of Forests, Central Provinces, Jubbulpur Circle, had kindly supplied, were distributed to all Divisional Forest Officers and were sown in June 1893, in selected forest areas in all divisions; it is reported that they have germinated rather sparsely.

118. The following kinds of seeds were procured, through the kindness of the Inspector-General of Forests, from Upper India, and were sent to the Divisional Forest Officers of Násik, Poona and Sátára for experimental sowing on high altitudes in their divisions; the seeds were sown chiefly in the Lingmalá nursery of the Mahábaleshvar Range:—

— Pinus longifolia.
Do. excelsa.

and seeds of—

Eucalyptus globulus.
Do. rostrata.
Do. piperita.
Cupressus toralosa.
Do. cashmeriana.
Acacia dealbata.
Do. melanoxylon.